INSEPARABLE BOOKS

Notebooks are a necessity in every science setting. Graphs, observations, procedures… all of science falls by the wayside without a way of recording the information. Here’s a fun fact: two notebooks are even better than one! When you intertwine two notebooks, page by page, they become Inseparable Books! Check out this hands-on activity and see if you can overpower the friction between the books!

###### http://www.stevespanglerscience.com/media/ee/13e0d9f4c0db05c4dea7f3c07573007c8b37b4fb.jpg**MATERIALS**

* 2 notebooks

###### **EXPERIMENT**

1. Place the notebooks on a flat surface with the bindings facing inward
2. Make sure the covers completely overlap with each other
3. Alternate pages from each notebook placing one over the last, continuing until the notebooks are entirely intertwined.
4. Holding the notebooks just inside the binding pull as hard as you can. Go ahead and have a friend pull on one of the notebooks while you pull the other.

###### **HOW DOES IT WORK?**

No. We didn’t cover the notebook pages with super glue, and you can really pull as hard as you want on the notebooks… they just aren’t going to come apart! Since we know you’re wondering, friction.

Friction is the force that opposes motion when two surfaces are in contact. Friction is the reason you can’t roll a ball for eternity with one toss, but it’s also what enables you to run as you press your feet against the ground. Friction slows the ball to a stop while preventing your feet some sliding out from under you.

You may think that the amount of friction between sheets of paper to be pretty minimal, and you’d be right. When you multiply that friction by hundreds of surfaces - like each of the pages interwoven together - you wind up with an amount of friction that is insurmountable.